

IN THE CLAIMS

Please cancel claims 2 and 22-59 without prejudice to their consideration in a continuing application.

Please amend claim 1 and 3 as shown below.

Please add claims 60-106.

1. (currently amended) A mixing valve comprising
a valve body including a hot fluid inlet for receiving a flow of hot fluid, a cold fluid inlet for receiving a flow of cold fluid, a mixed fluid outlet, and a cavity between the mixed fluid outlet and the inlets,
a first seat in the cavity,
a second seat in the cavity,
a thermostat assembly movable in response to changes in mixed fluid temperature, and
a valve member in the cavity movable in response to movement of the thermostatic assembly between a first position permitting flow of at least one of the hot and cold fluids and a second position restricting a majority of flow ~~[-or]~~ of hot fluid through the valve member,

wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot and cold fluid.

2. (cancelled)

3. (currently amended) The mixing valve of claim 1, wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot fluid only.

4. (original) The mixing valve of claim 1, wherein the valve member includes a weep opening to permit restricted flow of only the hot fluid when the valve member is in the second position.

5. (original) The mixing valve of claim 1, wherein the valve member includes a weep opening to permit restricted flow of the hot and cold fluid when the valve member is in the second position.

6. (original) The mixing valve of claim 1, wherein the thermostat assembly includes a thermostat coupled to the valve member to move the valve member in response to changing temperature of mixed fluid, wherein upon failure of the thermostat, the valve member is biased to the second position.

7. (original) The mixing valve of claim 1, wherein the valve member includes a cylindrical portion having an upstream end and a downstream end, the upstream end engaging the first seat when the valve member is in the first position.

8. (original) The mixing valve of claim 7, wherein the valve member further includes a disc coupled to the downstream end of the cylindrical portion, the disc engaging the second seat when the valve member is in the second position.

9. (original) The mixing valve of claim 8, wherein the disc is formed to include a weep opening to permit restricted flow of hot fluid when the valve member is in the second position.

10. (original) The mixing valve of claim 7, further comprising a liner in the cavity, the liner providing a hot liner inlet to receive a flow of hot fluid from the hot fluid inlet, wherein the liner includes a floor and the hot liner inlet is a slot formed in a side of the liner adjacent the floor.

11. (original) The mixing valve of claim 10, wherein the cylindrical portion cooperates with the slot to cover the slot when the valve member is in the first position.

12. (original) The mixing valve of claim 1, further comprising a liner in the cavity, the liner providing a hot liner inlet to receive a flow of hot fluid from the hot fluid inlet, wherein the liner includes a floor and the hot liner inlet is a bore formed in the floor.

13. (original) The mixing valve of claim 12, wherein the valve member is a poppet, and the bore is bordered by a wall providing the first seat, the poppet engaging the first seat when the valve member is in the first position.

14. (original) The mixing valve of claim 12, wherein the valve member is a poppet, and the poppet engages an inwardly facing wall of the bore when the valve member is in the first position.

15. (original) The mixing valve of claim 14, wherein the poppet engages the inwardly facing wall of the bore when the valve member is in the second position.

16. (original) The mixing valve of claim 15, wherein the poppet includes a first o-ring to engage the inwardly facing wall of the bore when the valve member is in the first position, and a second o-ring to engage the inwardly facing wall of the bore when the valve member is in the second position.

17. (original) The mixing valve of claim 1, wherein the valve member moves along a central axis, and the second seat is an annular flange extending radially inwardly toward the axis.

18. (original) The mixing valve of claim 1, wherein the valve member is a poppet that engages the first seat when the valve member is in the first position.

19. (original) The mixing valve of claim 1, wherein the valve member is a poppet, the first seat borders a bore through which the hot fluid flows into the cavity, and the poppet engages an inwardly facing wall of the bore when the valve member is in the first position.

20. (original) The mixing valve of claim 19, wherein the poppet engages the inwardly facing wall of the bore when the valve member is in the second position.

21. (original) The mixing valve of claim 1, wherein the valve member includes a plurality of spaced apart mixing fins projecting generally radially outwardly.

22. – 59. (cancelled)

60. (new) A mixing valve comprising
a valve body including a hot fluid inlet for receiving a flow of hot fluid, a cold fluid inlet for receiving a flow of cold fluid, a mixed fluid outlet, and a cavity between the mixed fluid outlet and the inlets,
a first seat in the cavity,
a second seat in the cavity,
a thermostat assembly movable in response to changes in mixed fluid temperature, and

a valve member in the cavity movable in response to movement of the thermostatic assembly between a first position permitting flow of at least one of the hot and cold fluids and a second position restricting a majority of flow of hot fluid through the valve member,

wherein the thermostat assembly includes a thermostat coupled to the valve member to move the valve member in response to changing temperature of mixed fluid, wherein upon failure of the thermostat, the valve member is biased to the second position.

61. (new) The mixing valve of claim 60, wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot and cold fluid.

62. (new) The mixing valve of claim 60, wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot fluid only.

63. (new) The mixing valve of claim 60, wherein the valve member includes a weep opening to permit restricted flow of only the hot fluid when the valve member is in the second position.

64. (new) The mixing valve of claim 60, wherein the valve member includes a weep opening to permit restricted flow of the hot and cold fluid when the valve member is in the second position.

65. (new) The mixing valve of claim 60, further comprising a liner in the cavity having a bore to receive flow from the hot fluid inlet, wherein the valve member is a

poppet, and the bore is bordered by a wall providing the first seat, the poppet engaging the first seat when the valve member is in the first position.

66. (new) The mixing valve of claim 60, further comprising a liner in the cavity having a bore to receive flow from the hot fluid inlet, wherein the valve member is a poppet, and the poppet engages an inwardly facing wall of the bore when the valve member is in the first position.

67. (new) The mixing valve of claim 66, wherein the poppet engages the inwardly facing wall of the bore when the valve member is in the second position.

68. (new) The mixing valve of claim 60, wherein the valve member moves along a central axis, and the second seat is an annular flange extending radially inwardly toward the axis.

69. (new) The mixing valve of claim 60, wherein the valve member includes a plurality of spaced apart mixing fins projecting generally radially outwardly.

70. (new) A mixing valve comprising
a valve body including a hot fluid inlet for receiving a flow of hot fluid, a cold fluid inlet for receiving a flow of cold fluid, a mixed fluid outlet, and a cavity between the mixed fluid outlet and the inlets,

a first seat in the cavity,

a second seat in the cavity,

a thermostat assembly movable in response to changes in mixed fluid temperature,

a valve member in the cavity movable in response to movement of the thermostatic assembly between a first position permitting flow of at least one of the hot

and cold fluids and a second position restricting a majority of flow of hot fluid through the valve member; and

a liner in the cavity, the liner providing a hot liner inlet to receive a flow of hot fluid from the hot fluid inlet, wherein the liner includes a floor and the hot liner inlet is a slot formed in a side of the liner adjacent the floor;

wherein the valve member includes a cylindrical portion having an upstream end and a downstream end, the upstream end engaging the first seat when the valve member is in the first position.

71. (new) The mixing valve of claim 70, wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot fluid only.

72. (new) The mixing valve of claim 70, wherein the valve member includes a weep opening to permit restricted flow of only the hot fluid when the valve member is in the second position.

73. (new) The mixing valve of claim 70, wherein the valve member includes a weep opening to permit restricted flow of the hot and cold fluid when the valve member is in the second position.

74. (new) The mixing valve of claim 70, wherein the valve member further includes a disc, the disc engaging the second seat when the valve member is in the second position.

75. (new) The mixing valve of claim 74 wherein the disc includes a weep opening to permit restricted flow of at least one of the hot fluid or cold fluid when the valve member is in the second position.

76. (new) The mixing valve of claim 70, wherein the cylindrical portion cooperates with the slot to cover the slot when the valve member is in the first position.

77. (new) The mixing valve of claim 70, wherein the valve member moves along a central axis, and the second seat is an annular flange extending radially inwardly toward the axis.

78. (new) The mixing valve of claim 70, wherein the valve member includes a plurality of spaced apart mixing fins projecting generally radially outwardly.

79. (new) A mixing valve comprising
a valve body including a hot fluid inlet for receiving a flow of hot fluid, a cold fluid inlet for receiving a flow of cold fluid, a mixed fluid outlet, and a cavity between the mixed fluid outlet and the inlets,

a first seat in the cavity,

a second seat in the cavity,

a thermostat assembly movable in response to changes in mixed fluid temperature, and

a valve member in the cavity movable in response to movement of the thermostatic assembly between a first position permitting flow of at least one of the hot and cold fluids and a second position restricting a majority of flow of hot fluid through the valve member.

a liner in the cavity, the liner providing a hot liner inlet to receive a flow of hot fluid from the hot fluid inlet, wherein the liner includes a floor and the hot liner inlet is a bore formed in the floor

80. (new) The mixing valve of claim 79, wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot fluid only.

81. (new) The mixing valve of claim 79 wherein the valve member includes a weep opening to permit restricted flow of only the hot fluid when the valve member is in the second position.

81. (new) The mixing valve of claim 79, wherein the valve member includes a weep opening to permit restricted flow of the hot and cold fluid when the valve member is in the second position.

83. (new) The mixing valve of claim 79, wherein the valve member further includes a disc, the disc engaging the second seat when the valve member is in the second position.

84. (new) The mixing valve of claim 83 wherein the disc includes a weep opening to permit restricted flow of at least one of cold fluid or hot fluid when the valve member is in the second position.

85. (new) The mixing valve of claim 79, wherein the valve member is a poppet, the poppet engaging the first seat when the valve member is in the first position.

86. (new) The mixing valve of claim 79, wherein the valve member is a poppet, the bore is bordered by a wall providing the first seat, and the poppet engages an inwardly facing wall of the bore when the valve member is in the first position.

87. (new) The mixing valve of claim 86, wherein the poppet engages the inwardly facing wall of the bore when the valve member is in the second position.

88. (new) The mixing valve of claim 79, wherein the valve member moves along a central axis, and the second seat is an annular flange extending radially inwardly toward the axis.

89. (new) The mixing valve of claim 79, wherein the valve member includes a plurality of spaced apart mixing fins projecting generally radially outwardly.

90. (new) A mixing valve comprising
a valve body including a hot fluid inlet for receiving a flow of hot fluid, a cold fluid inlet for receiving a flow of cold fluid, a mixed fluid outlet, and a cavity between the mixed fluid outlet and the inlets,

a first seat in the cavity,

a second seat in the cavity,

a thermostat assembly movable in response to changes in mixed fluid temperature, and

a valve member in the cavity movable in response to movement of the thermostatic assembly between a first position permitting flow of at least one of the hot and cold fluids and a second position restricting a majority of flow of hot fluid through the valve member.

wherein the valve member is a poppet that engages the first seat when the valve member is in the first position

91. (new) The mixing valve of claim 90, wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot fluid only.

92. (new) The mixing valve of claim 90, wherein the valve member includes a weep opening to permit restricted flow of only the hot fluid when the valve member is in the second position.

93. (new) The mixing valve of claim 90, wherein the valve member includes a weep opening to permit restricted flow of the hot and cold fluid when the valve member is in the second position.

94. (new) The mixing valve of claim 90, wherein the valve member further includes a disc, and the disc includes include an opening to permit restricted flow of at least one of the hot fluid or the cold fluid when the valve member is in the second position.

95. (new) The mixing valve of claim 90, wherein the valve member moves along a central axis, and the second seat is an annular flange extending radially inwardly toward the axis.

96. (new) The mixing valve of claim 90, wherein the valve member includes a plurality of spaced apart mixing fins projecting generally radially outwardly.

97. (new) A mixing valve comprising
a valve body including a hot fluid inlet for receiving a flow of hot fluid, a cold fluid inlet for receiving a flow of cold fluid, a mixed fluid outlet, and a cavity between the mixed fluid outlet and the inlets,
a first seat in the cavity,
a second seat in the cavity,
a thermostat assembly movable in response to changes in mixed fluid temperature, and

a valve member in the cavity movable in response to movement of the thermostatic assembly between a first position permitting flow of at least one of the hot and cold fluids and a second position restricting a majority of flow of hot fluid through the valve member.

wherein the valve member is a poppet, the first seat borders a bore through which the hot fluid flows into the cavity, and the poppet engages an inwardly facing wall of the bore when the valve member is in the first position

98. (new) The mixing valve of claim 97, wherein the first seat is upstream of the second seat and the valve member in the second position engages the second seat and restricts the flow of hot fluid only.

99. (new) The mixing valve of claim 97, wherein the valve member includes a weep opening to permit restricted flow of only the hot fluid when the valve member is in the second position.

100. (new) The mixing valve of claim 97, wherein the valve member includes a weep opening to permit restricted flow of the hot and cold fluid when the valve member is in the second position.

101. (new) The mixing valve of claim 97, wherein the valve member further includes a disc, the disc engaging the second seat when the valve member is in the second position.

102. (new) The mixing valve of claim 101, wherein the disc includes a weep opening to permit restricted flow at least one of hot fluid or cold fluid when the valve member is in the second position.

103. (new) The mixing valve of claim 97, wherein the poppet engages the first seat when the valve member is in the first position.

104. (new) The mixing valve of claim 97, wherein the valve member moves along a central axis, and the second seat is an annular flange extending radially inwardly toward the axis.

105. (new) The mixing valve of claim 97, wherein the poppet engages the inwardly facing wall of the bore when the valve member is in the second position.

106. (new) The mixing valve of claim 97, wherein the valve member includes a plurality of spaced apart mixing fins projecting generally radially outwardly.